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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/604,912

08/26/2003

Heemyoung Park

FIS920030026US1

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08/29/2006

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EXAMINER

KEBEDE, BROOK

ART UNIT

PAPER NUMBER

2823

DATE MAILED: 08/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action
Before the Filing of an Appeal Brief**

Application No. 10/604,912	Applicant(s) PARK ET AL.	
Examiner Brook Kebede	Art Unit 2823	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 15 August 2006 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☒ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: (See the attachment). (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☒ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____.
Claim(s) objected to: _____.
Claim(s) rejected: 1,2,4-9,11-17,19-24 and 26-28.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____.
13. ☐ Other: _____.


Brook Kebede
Primary Examiner
Art Unit: 2823

Continuation Sheet (PTO-303)

Advisory Action

1. On cursory consideration, the request for reconsideration, which has not been entered, does not clearly appear to overcome the rejections.

Response to Arguments

2. Applicants' arguments filed August 15, 2006 have been fully considered but they are not persuasive.

Applicants argue that "Park does not teach or suggest the following features: *forming spacers with a target spacer width adjacent to said gate stack, wherein in order to achieve said target spacer width a combined height of said gate conductor and said at least one sacrificial layer is predetermined and wherein said target spacer width is predetermined to ensure that said spacers sufficiently separate said source and drain regions from said gate stack so as to avoid lateral encroachment of said impurity into a channel region...*"

In response applicants' argument, it is respectfully submitted that Park et al. '084 disclose all the claimed limitations as applied in Paragraph 2 of the Office action that was mailed on July 5, 2006.

For example, as depicted in Fig. 5, the S/D implantation occurs in the presences of oxide liner 42 and nitride spacer 60 that is sufficient to avoid *encroachment of said impurity into a channel region*, (i.e., to avoid short-circuiting of the device). As depicted in Figs. 2 and 3, the sacrificial spacer 70 and of oxide liner 42 and nitride spacer 60 (i.e., the target spacers) have combined predetermined height and width. In addition, the spacers have predetermined thickness and height that ensure that sufficient separation during that source and drain regions formation so

that lateral encroachment of said impurity into a channel region below said gate stack regardless of a height of said gate conductor could be avoided. During formation of epitaxially growing the raised source and drain regions 36, as shown in Figs. 6-8, there is no impurity doping is performed. Therefore, the formation of the raised S/D regions 36 are formed in the absence of doping impurities.

Furthermore, Park et al. disclose all the limitations including forming of the target spacer. As shown Figs. 1-4, the target spacers (42 60 70) are formed to protect the gate electrode and the channel region under the gate electrode during amorphization ion implant process (see Figs. 2 and 3) prior implanting the S/D implant. In addition, none the drawing show diffusion of the impurities under the gate conductor (i.e., in the channel region) as shown in Figs. 5-8. As shown Fig. 5, the target spacer protects the channel region for impurities during the S/D implantation process. In addition, it is respectfully submitted that the lateral encroachment never occur in Park et al. '084 disclosure because the use of spacer as well dummy spacer is intended to avoid such problem. This is the art-recognized problem so that Park et al. '084 process also intended to avoid such problem.

Applicants further argue that "Park does not teach or suggest after epitaxially growing raised source and drain regions, implanting impurities into the raised source and drain regions and into said substrate below the raised source and drain regions, wherein implanting the impurities after epitaxially growing the raised source and drain regions avoids subjecting the impurities to the thermal budget of the epitaxially grown..."

In response to applicants' argument, it is respectfully submitted that the implant form S/D extension is conducted after the epitaxial layer formed (see Figs. 9 and 10). Furthermore, the

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impurities 35' below the epi-layer 36 (see Fig. 10) is occurred due to the implantation process after the epitaxial layer 36 is formed and does not required any heating (annealing) process to diffuse the dopant into the epitaxial layer 36 as shown in Fig. 10 (i.e., wherein implanting the impurities after epitaxially growing the raised source and drain regions avoids subjecting the impurities to the thermal budget of the epitaxially grown).

Furthermore, claims are to given their broadest reasonable interpretation in light of the supporting disclosure. See *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. See *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). See also *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989).

Therefore, the rejection of claims 1, 2 , 4-9, 11-17, 19-24 and 26-28 under 35 U.S.C. § 102 is sill deemed proper.

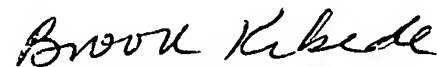
Correspondence

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brook Kebede whose telephone number is (571) 272-1862. The examiner can normally be reached on 8-5 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Brook Kebede
Primary Examiner
Art Unit 2823

BK

August 25, 2006